BILZ

GNCN / GNCK Self Reversing Tapping Attachment

Scope and Areas of Application

The GNCK / GNCN - self reversing tapping heads are designed for tapping and - forming, on machining centres with automatic tool change or special purpose machines.

Through the build in reversible, maintenance free gear there is no spindle revers required for the way out. The units can be used for left-and right-hand thread.

The GNCK tapping attachment with coolant feed is designed for pressures up to 50bar.

We are pleased that you have decided on a BILZ product.

This manual describes the proper use and handling of the product.

Read the instructions carefully before use and use the product only in the manner specified by us.

⚠ Important Information!

To prevent damage or injury, please follow the instructions exactly.

Tool change only with standing spindle!

Do not disassemble the products and do not make any modifications. This may result in damage and malfunction!

Use only self reversing tapping chuck and adaptors of BILZ company.
The combination with other products may cause damage or malfunction!

The chucks are maintenance-free, should there be any faults, please use do not continue using the products. Please contact the Technical Service of the company BILZ.

Cleaning:

Periodically, we recommend to clean the chucks with a cleaning rag. This depends on the degree of contamination.
Do not use any aggressive solvent or clean them in washing machines / ultrasonic machines.
No use of fibrous materials like e.g. cleaning wool.

Out of Operation:

If the chuck is taken out of operation, note the following. Clean the chuck with a cleaning rag.
Spray or rub the chuck with a preservation oil, to prevent the formation of rust and preserve the smoothness of the chuck. Prior to storage, coolant and processing residues should be removed.

Use the product only for the recommended application of BILZ.

If you do have any questions please contact BILZ
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Installation Instruction

Keep clean the tool holder location in the machine spindle.

Hold the tool safe when changing tools, so when releasing the tool, the tool does not fall into the engine room and damaging the tool and / or work piece.

Note the tool dimensions of the machine manufacturer.

Depending on the angular position of the stop arm it is possible that a second position in the tool magazine is required.
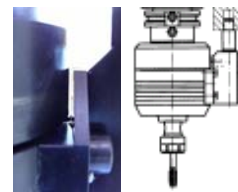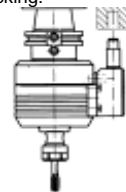
⚠ Attention!

For the first usage change the unit into the spindle by hand, to check the correct angle position of the stop arm and the movement of the spring loaded pin. If these points are correct please try an automatic tool change, to check if there are any collisions in the tool changer or the tool magazine.

Check stop locking:

Locking engaged   Locking disengaged

Tigthening clamping nut:

Torque setting:
ESX12   24Nm Ø 3-7mm
ESX16   40Nm Ø 4-4,5mm
ESX16   56Nm Ø 5-10mm
ESX25   80Nm Ø 5-7,5mm
ESX25 104Nm Ø 8-16mm

To tighten the nut use a suitable wrench and hold with another spanner on the key area of the spindle and the tighten with the recommended torque.

Operating Manual

⚠ Programming: Please note the following points absolutely!

- No dwell time when reversing the spindle!
- Use reaming cycle only. Do not use a drilling cycle!
- No cycles or sub programs from competitors!
- Using GNCK the coolant always must be switched on.
- The tap must be suitable for the application (e.g. material, depth, hole).

PROGRAMMING-EXAMPLE: BILZ Self reversing tapping heads

Example : e.g. GNCN / GNCK 20 C
Thread size : M14x2
Speed : S=682U/min, V=30m/min   (Follow recommendation manufacturer)
Feed rate : 95 % - 98% same for in and out,   (F=682x2x0,95=1296mm/min)**
thread depth : 36mm   (in drawing)
Chamfer tap : 6mm   (Depending on chamfer form, A-E)

Example: calculation thread depth to program : (Z -38)*
- thread depth   36mm
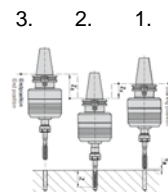- Self feed B/2 GNCK20   - 4mm; (size6=1,75; size12=2,5)
- chamfer tap   + 6mm; (pitch 2mm , 3 Gang)
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Z-38 = 36mm - 4mm + 6mm

Programming example :
1. G O Z + 5 X.... Y.... M 4 S 682   (Start point)
2. G 1 Z - 38* F 1296** (calculated tapping depth, feed rate)
3. G 1 Z + 19***   (End point / Safety clearance)
   G 0 Z+5 X.... Y.... (going to next thread position)

⚠ Attention!

After reaching the start position do not use single block anymore!
If there is only one position possible (start / end position), use always the end position.
The end position / safety clearance is for:
GNCK6=11mm; GNCK12=15mm; GNCK20=19mm***; (also valid for GNCN)